CPEC

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Pakistani Economy: An Appraisal



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CENTRE OF EXCELLENCE
China-Pakistan Economic Corridor

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About Centre of Excellence-CPEC:

The Centre of Excellence for CPEC is a joint initiative of Pakistan Institute of Development Economics and Ministry of Planning, Development and Reform, Islamabad. It is a leading policy guiding Think-tank for effective implementation of CPEC portfolio. The mandate of the Centre is to conduct core research on CPEC (six themes), to promote true narrative of CPEC, to guide implementers of CPEC on policy matters, and to train business community on CPEC related business opportunities.

Following are the research themes of the Centre of Excellence for CPEC;

1. Socio Economic impact of CPEC
2. CPEC Trade and Industry Cooperation
3. Regional Connectivity under CPEC
4. Financing and Financial sector integration under CPEC
5. Urban development in Pakistan under CPEC
6. Job growth and human resource development

This booklet is also explaining the true narrative of CPEC for society at large.

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Introduction

One of the common reservations expressed about CPEC is that it lacks transparency and non-availability of complete information. The terms and conditions of financing at which the Chinese companies are participating in these projects are not fully known and the likely future financing burden on Pakistan's balance of payments is not obvious. This booklet attempts to address some of these issues to the extent that the projects have been planned, agreed upon, finalized and implementation is under way. Only approximately half of $ 45 billion committed originally for CPEC would be utilized for these projects. Pakistan's liability is therefore at present limited to this $ 23-25 billion only. Many other projects are at feasibility stage, discussion or negotiation stage between the two governments or on hold. No amount has either been committed or disbursed for these projects and the liability of Pakistan has not yet arisen.

It must be kept in mind that the planning of CPEC follows four stages and frim information would flow only when we reach that stage. These stages are:

(i) Early Harvest 2015-2019 Most of the projects relate to Energy sector which are already completed or expected to be completed by 2019 adding approximately 7000 MW electricity to national grid and thus easing the energy shortages and load shedding that had crippled the industry and exports
(ii) Short term projects up to 2022 mainly Roads, Gwadar Development, Optic fiber network and the Hydel, coal mining and power projects
(iii) Medium projects up to 2025 Railways and Industrial zones
(iv) Long term projects up to 2030 Completion of Industrial zones, Agriculture, Tourism etc.

The confusion arises when some of the commentators mix up industrial zones that would spill over in the long term and on which very little planning or conceptual work has been done with the energy projects that would add 13180 MW to the national grid by 2022 and are at various stages of execution. A more disaggregated approach would help remove this confusion. But the fact that the industrial zones are still at their initial stage provides an opportunity for our private sector businesses to take active part in the design, policy framework, institutional arrangements , incentive structure to ensure a level playing field for all investors—domestic and foreign (Chinese or non-Chinese) . Rather than remaining by standers, skeptics and critics at various fora the business community should become a stakeholder in this process. Two papers in this booklet specifically lay down the proposed policy and institutional changes that can help us derive maximum benefits for CPEC.

One must also be cautious in not pinning and propagating exaggerated expectations from CPEC. Over a period of 15 years the annual average investment under CPEC would amount to $ 3 billion only or 6% of annual investment budget of the country. Therefore those who claim that it would be a game changer for Pakistani economy are making too inflated and

unrealistic claims and setting themselves up for failure. At the same time the detractors and critics who propound the theory that Pakistan would be caught in the Chinese deb trap and cede its territory i.e. Gwadar and sovereignty are also sadly mistaken. The oft quoted example of Sri Lankan port Hambantotta is totally inapplicable even in the larger context of the Sri Lankan economy. Neither of these prophecies are likely to materialize. According to the IMF (extract of their report of 2017 is attached in the appendix) the peak outflows on account of CPEC debt servicing, profit and dividend repatriation and increased imports would reach $ 3.5 -4-5 billion in 2024/25 and gradually declining in the long run. Export revenues in 2024 should rise to $ 40 billion and this additional amount arising from the CPEC related outflows can be absorbed without much stress on the balance of payments provided we continue to ensure that exports grow at least 10 percent annually(In the last nine months since the ease in energy shortages ,exports have grown at 12 percent) .

In the final analysis , what is going to be the likely outcome of CPEC very much depends upon our collective response capacity i.e. of the Federal, provincial and local governments, the private sector , the media and the civil society all working together in unison and collaboratively. If that happens, the benefits to Pakistani economy and society particularly Balochistan and Southern KP are likely to exceed the costs. But if we continue with the Business as usual mode where bickering, blame game, point scoring, narrow parochial and personal considerations, red tape, hesitation and delays in solving problems and removing bottlenecks persist then we would certainly find ourselves entrapped in heavy financial burden. The choice is entirely ours and not that of our Chinese partners.

CPEC: Opportunities and Risks

China Pakistan Economic Corridor (CPEC) has become a subject of increasing number of conferences, talk shows. Op Ed pieces, articles etc. The interest it has sparked is not limited to Pakistan but has spilled over across the border and into far distant places.

The basic thrust of the debate emanates from two different strands of thought, at the geopolitical level, the One Belt One Road (OBOR) of which CPEC is an integral part is considered as a manifestation of China's ambitions to become a global power to reckon with. The existing power structure is therefore threatened by the rising influence of a new comer on the scene. New alliances such as US-Japan-India are emerging to contain the ascendancy of China. South Asian archrivals-India and Pakistan, are realigning themselves. Pakistan, a longtime ally of the US, is drifting gradually towards Chin while India—a traditional friend of the Soviet Union—is strengthening its links with the United States. CPEC has accordingly been caught in the cross fire between these two rival camps. Some of the criticism and skepticism about CPEC originates purely from the fear of china possibly using Gwadar in future as a strategic naval base in a critical sea fare lane in the Gulf.

As far as the geo-economics of OBOR is concerned, as many as sixty countries would get connected to China through a network of roads, highways, railways, pipelines, grids and fibre optic. This connectivity at its peak would further enhance the competitiveness of Chinese goods and services by reducing the transaction costs and expediting delivery time. China is already flooding the international markets with its relatively cheap goods and has become the top exporting nation of the world. Its comparative advantage would thus be sustained over time. Its position as a magnet for global supply chain would be further reinforced.

It is in the above context that the opportunities and risks arising from CPEC should be examined dispassionately in a holistic manner. The foremost singular contribution that has already made a significant and visible difference is the addition of 10,000MW to the generation capacity in Pakistan in a span of four years, It has overcome chronic energy shortages, altered the fuel mix, and substituted plants with 61 percent efficiency factor in place of those operating at 28 percent bringing down the cost to consumers. Electricity outages had cost the economy about 1.5 to 2 percentage points of GDP. Export orders were cancelled and the buyers walked out of Pakistan as their traditional suppliers couldn't fulfill the orders on time because of energy shortages. The value of exports took a dip, precipitating a balance of payments crisis. As new hydel, renewables, coal-based projects come on stream, there would be a corresponding shrinking of imports of Furnace oil and Diesel.

The associated risk of additional supply of power is that unless we restructure or privatize the Distribution companies or make Power Distribution sector competitive, the circular

debt would keep on rising. Distribution Losses and non-recovery of dues have put enormous pressure on public finances and the subsidies on this account may escalate if institutional reforms are not undertaken.

The second area which would benefit Pakistan is the construction of highways and railway line linking Gwadar with Kashgar and the Mass Transit systems within big cities. The rehabilitation and upgrading of Main Railway Line with High speed trains would relieve the businesses of high cost of domestic transportation of goods to and from Karachi as at present bulk of the freight is carried by trucking fleet. Inner city Mass Transit systems in Lahore, Peshawar, Karachi and Quetta would provide safe and affordable public transport to the citizens who face a lot of inconveniences and spend a lot of time and money in commuting to work. The reduced travel time and saving in transportation expenses would increase their productivity and also augment the purchasing power of lower income and low middle-income group.

The Western route would open up the backward districts of Balochistan and Southern KP and integrate them with the national markets. The communities living along the route would be able to produce and sell their mining, livestock and poultry, horticulture, fisheries output to a much larger segment of consumers. Their transportation costs would become lower, the proportion of perishables and waste would go down, cool chains and warehousing would become available and processing would become possible in the adjoining Industrial zones. Access to large trucking fleet and containers with greater frequency and reduced turnaround time may help in the scaling up of operations. Fibre optic network would allow the citizens of these deprived districts access to latest 3G and 4 G broadband internet connections.

The risk is that the educational, health, drinking water, vocational training facilities may not be available to the communities living outside the Industrial zones in these districts. This may create resentment that the benefits are not accruing to the people at large in these districts. Careful planning should be done as is the case with Sindh Engro Thar Coal Mining project that the local population benefits in form of employment, contractual services, rural roads and transport services, agriculture development and vocational and on the job training. A special dedicated multiyear fund amounting to Rs 100 billion should be set up for providing the basic services to the communities living in all the districts from Gwadar to DI Khan along the Western route. This gesture would go a long way to spread the benefits of CPEC to a much larger segment of the population in these remote, disadvantaged areas of the country. It would also help in promoting social cohesion and allaying the fears that the local communities would become marginalized. The detractors who are propagating that the CPEC would only benefit Punjab would be exposed in their nefarious game of creating polarization and discontent.

There is a systematic campaign orchestrated by some Pakistanis reverberated in other not too friendly countries that the CPEC is designed for the benefit of the Chinese and eventual economic domination of Pakistan. It is argued that a fragile and highly indebted

economy with weak exports, dependent upon foreign assistance and prone to periodic external payments crises would not be able to meet the additional debt obligations and repatriation of profits created by the CPEC. China is entrapping Pakistan by giving expensive loans and credits for projects of dubious economic value. If it is not able to repay, China will take over the Gwadar port, land and assets in Pakistan as they have done in case of Hambantota port in Sri Lanka. This agreement between China and Sri Lanka has been widely touted as an example of the Chinese nefarious intentions to colonize poor countries.

The above stated apprehensions are totally misplaced and based on conjectures, not on actual facts. Out of total commitment of $ 50 billion, seventy percent or $ 35 billion would be coming to Pakistan in form of Foreign Direct Investment. The Chinese companies are following the established IPP policy of the Government which is applicable to all domestic and foreign investors under which they are allowed 17 percent return on equity in US dollar terms. Infrastructure projects would be financed by long term concessional loans averaging interest rate of 2 percent and grants. It is estimated that the total annual outflows on both these counts would average between 2.5 to 3 billion dollars annually. How would this amount be repaid? The losses to national income due to energy shortages amounted to $ 6 billion annually. AS these shortages are eased and efficiency gains are realized the national income would rise at least by $ 6-7 billion per annum. Resumption of higher growth rate of 6 to 7 percent would not only suffice to repay these obligations comfortably but also have ample resources available for new investment. Exports had stumbled from $ 25 billion to 21 billion again because of outages. These are now beginning to grow in double digits. It is estimated that a 14 percent growth rate of exports would be able to finance the additional foreign exchange burden of all the repayments on account of CPEC. Imports of capital goods would recede with completion of the energy projects causing savings on the import bill. Similarly, as the demand for imported fuel oil and diesel diminishes despite the LNG imports there would be easing of pressure on the POL import bill. These savings on the import side have not been reflected in the above analysis of repayment capacity. We also have not taken into account the transit fees in these calculations as we do not know the volume of trade that would pass through the corridor. These calculations also do not include the second order effects whereby infrastructure projects make our industries more competitive for import substitutes and new export products. The substantial inflow of Chinese investment is also changing the perception about Pakistan and signaling to other countries that Pakistan was an attractive and safe place to invest. To the extent that foreign investment from other countries is also stepped up Pakistan’s capacity to repay would be further enhanced. It can be seen that higher growth of economy and exports would enable Pakistan to meet its repayment obligations comfortably.

In order to realize these opportunities and mitigate the risks the Government of Pakistan has to take several policy and institutional reforms and streamline its bureaucratic

processes. In absence of these measures the benefits may turn out to be lower than what we have calculated and the risks may be elevated.

Chinese perceptions of CPEC

MOST discussions and analyses with regard to the China-Pakistan Economic Corridor (CPEC) have a Pakistan-driven perspective, and rightly so. After all, we have to safeguard our national interests and ensure maximum benefits for the country. These discussions and writings have evoked a lot of interest in China. This article attempts to present a limited cross section of the views articulated by Chinese scholars, academics, companies engaged in CPEC, retired officials and other friends of Pakistan.

My past association with China as the region's chief economist for the World Bank as well as visits to China practically every year since then has allowed me to gather these points of view. This year I also had the privilege of attending two international conferences on CPEC, one in Beijing in March and the second in Shanghai in August and listening to the candid views of the Chinese participants from various sections of the society. The goodwill that Pakistan enjoys among the Chinese is perhaps unparalleled and therefore we have to pay heed to their concerns and suggestions. The gist presented here is a composite sketch of diverse views.

The Chinese have voiced concerns regarding negative CPEC talk, security and red tape.

Under its One Belt One Road Initiative announced in 2013, China is planning to invest more than $1 trillion in 60 countries all over the world to establish six different corridors. The receptivity in other countries to this proposal has been anything but enthusiastic; however, some Chinese friends are puzzled by the skeptical and negative reactions from certain quarters in Pakistan expressed in the media, particularly on social media. This comes to them as a surprise because of the long uninterrupted record of strong bilateral relations between the two countries that were not even affected by changes in political leadership in either country. CPEC is the first project of its kind to foster economic cooperation on a massive scale for building large infrastructural projects in Pakistan.

Although realizing that there are some external forces hostile to this initiative, Chinese analysts and participants are concerned about what they see as the misrepresentation of facts by many Pakistanis. It is not obvious to them as to what purpose is served by raising doubts and fears about CPEC in the minds of the Pakistani population. The aspersions being cast on the motives of the Chinese, such as the analogy with the East India Company or Pakistan becoming a satellite of China, are very unnerving: external detractors of CPEC pick up these reports and after bundling them as 'risks' of CPEC to Pakistan, disseminate them widely.

The Chinese argue that the IPPs have been a policy instrument for investment in Pakistan's energy sector for a very long time. When the country was facing serious energy shortages no one else came to Pakistan's rescue and invested in the sector. Now that

China has come forward with a planned investment of $35 billion or 70 per cent of the total CPEC allocation under the same policy, questions are being raised.

Had it involved extraction of natural resources from Pakistan for the benefit of the Chinese, this criticism would have been justifiable. On the contrary, the benefits of this investment would be exclusively appropriated by Pakistan's industries and households that would no longer face load-shedding while the country would record a 2pc annual rise in GDP growth.

Chinese state-owned companies, designated by the Chinese government based on their expertise and experience, are executing the projects with loans provided by government-owned banks on concessional terms both in tenor and pricing. In several projects, Chinese and Pakistani companies have entered into joint ventures. The repatriation of profits and debt-servicing in foreign exchange arising out of these obligations would become possible after an increase in the volume of exports as a result of the Chinese-Pakistani joint ventures relocating their industries to the Gwadar Free Economic Zone and the nine industrial zones to be established under CPEC.

In the opinion of some, the negative feelings can have unintended adverse consequences for the personal security of Chinese nationals working on these projects, particularly in some sensitive areas of Balochistan. Some elements unhappy with the Pakistani state and government and possibly acting at the behest of foreign powers hostile to CPEC appear to have created conditions in which the murders and kidnappings of Chinese nationals that were almost non-existent have begun to take place. Our interlocutors were grateful for the new division being raised by the Pakistan Army for protection of the Chinese; but the security risk is raising premiums for relocation to some of the vulnerable areas.

The other area which bothered CPEC's project managers was the red tape and cumbersome decision-making within the Pakistani government. Too many agencies are involved in the clearance and approval process, each one taking its own time. These delays cost them money and disrupt the schedule of activities and completion time table. Power tariffs, according to them, should be reasonable, predictable, sustainable, and valid for a multi-year period and not subject to frequent changes. They request that a focal point in the government be established and empowered to secure all approvals and decisions.

The next point raised was to have a high-level joint coordination committee to redress the grievances and complaints of the Chinese companies. The existing joint working groups operate at the government-to-government level but there is no platform available for the Chinese companies or their Pakistani joint venture partners to approach. Continuous federal-provincial-local government coordination is essential to move the projects along till completion. Land acquisition is a provincial local subject and the process takes too much time.

When questioned about the Pakistani private-sector companies partnering with them, the Chinese executives told us that the dearth of qualified and experienced Pakistani entities was an acute problem. Their own cost of production would be lowered if they were able to deploy Pakistani managers, skilled workers, equipment operators and labour as part of their deal with the local companies. These perceptions may be right or misplaced but we have to investigate and take measures to resolve some of the genuine problems faced by our Chinese partners.

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A golden opportunity

INFRASTRUCTURE projects all over the world have a tendency towards cost overruns and schedule delays. Pakistan's implementation record has been relatively worse, irrespective of the form of government or party in power. It is characterized by sluggishness, frequent change of managers, passing on the buck and not accepting responsibility. The recent increase in load-shedding epitomizes this trend as the planned addition to generation could not be achieved on time.

To be successful, the China-Pakistan Economic Corridor requires an entirely different approach, i.e. clear delineation of responsibilities, specific goals and targets, a defined set of indicators along with incentives and penalties for performance and non-performance and finally, transparent accountability. If a beginning is made with CPEC under the sharp scrutiny of the Chinese as well as our own political leaders — both in government and in the opposition — this new paradigm might gradually permeate our bureaucratic nervous system.

At present we have the 'too much too little' accountability syndrome. Honest and competent officers have given up doing their best because of the constant fear of their names and reputations being unnecessarily tarnished by the FIA, NAB, Public Accounts Committee and media, particularly the free-for-all social media. Taking cognizance of these 'allegations and accusations' suo motu, the courts step in and drag the officers into the fray. For such officers, the sensible choice is 'do not commit' and 'do not take any decision'.

CPEC provides a chance to improve our institutions of governance.

On the other hand, those who are complicit in corruption go scot-free with the help of their political godfathers. The National Reconciliation Ordinance, various implicit or explicit compacts, open or secret deals between major political parties, etc. have impaired the credibility and the deterrent effect of the accountability process. In the ultimate analysis, the officers belonging to the group of 'actor officers' may in the short run suffer some temporary inconvenience or dislocation but in the long run, they are better off having amassed so much wealth that they and their next generations can live comfortably in Canada, Dubai and London, etc.

In the event their political godfathers are back in power, they can return and resume their activities. The country hence suffers both ways: firstly, competent and honest officers shy away from doing their jobs leading to a paralysis in decision-making and suboptimal results, and secondly, public resources are utilized for 'personal gain' rather than the public good. Implementation is thus either paralyzed or attained at a huge cost to the public exchequer.

What needs to be done is well known and documented but no action has been taken by successive political leaderships. Short- sighted leaders with an eye to the next electoral cycle do not find it in their interest to undertake ‘unpopular’ reforms. Only a visionary leader, whose aim is to lift Pakistan into the upper tiers of economic ascendency and make it competitive in the global economy, is capable of bringing about these changes.

Unfortunately, external pressures from the US, World Bank, the Asian Development Bank and IMF have not made much of a dent on our institutions of governance. CPEC provides such an opportunity. Whether it is the ministries, provincial departments or executing agencies, they have to deliver within the time-bound, resource-specified plan agreed with the Chinese government. To meet this goal officials responsible for planning, coordination, regulation and execution of CPEC projects should be:

Selected on merit, technical and/or managerial competence, and integrity rather than on loyalty and connections.

Assured security of tenure until the project’s completion and not at risk of being transferred on the whims of the “competent authority” while the project is being implemented.

Provided requisite resources, autonomy to operate without too much interference, monitored regularly and their performance evaluated against pre-agreed indicators.

Given full support and protection against frivolous accusations and character assassinations.

Held accountable for results and outcomes.

As institutional reforms across the board have been stymied by lack of political will, a more selective approach may be adopted, targeting the ministries, provincial departments and executing agencies involved in the planning, coordination, regulation, supervision and implementation of CPEC projects.

For example, it is a gigantic undertaking to lay the track, and rehabilitate, upgrade and construct the double track extending several thousand kilometers on BOT (build, operate, transfer) basis. This undertaking exceeds Pakistan Railways’ present capacity. Until it is completely restructured and reorganized, and the reforms outlined here put in place, the risks of non-completion, shoddy work and cost and time overruns would remain elevated.

It is useful to remind the political parties that CPEC timelines extend over 15-20 years, and the impact of these reforms may be felt when any of these parties is in power. The consensus reached on them now can benefit almost all the political parties in the form of efficient and expeditious completion of projects without much effort on their part when they assume power. As they say in Urdu: “Paki pakai kheer khanay ko mil jae gee” (we will get ready-made pudding to consume). These reforms have to be institutionalized and given broad political support and approved by parliament to ensure their continuity even

when there is a regime change. They will take an extended period of time to get rooted and any attempt to derail them prematurely would have highly pernicious effects. CPEC projects in the absence of these reforms may cost the nation way beyond current estimates with much lower benefits.

It is important to recognize that the risks are quite high. The reforms will meet obstruction, resistance and may be accepted in principle and on paper, but their substance may be deformed and obfuscated in actual practice. Those glib talkers who are going to be the losers in this game may find all kinds of flaws and loopholes in them. They may try to convince the decision-makers that they are being taken for a ride as their powers and authority are being curtailed, that the people of Pakistan have given them the mandate to do whatever they wish and these reforms are in fact an abridgement of that mandate. But my hope against hope is that our leaders will be able to see through this game.

Published in Dawn, April 25th, 2017

Policy Imperatives for CPEC

Most of the discussion about CPEC has so far focused on the financing and indebtedness in the future but the success of this initiative lies in the successful interaction between investment, institutions and policy. What kind of policies are needed to maximize benefits and minimize costs to the country. There are several but at least six areas need careful design and execution.

Energy Policy:

The addition of 10000 MW of electricity that is scheduled to become available to the National Grid by 2018 would overcome the energy shortages. However, it may create unintended adverse consequences for the public finances and liquidity of the companies involved in the energy supply chain if other components of energy policy are not put right. The Circular Debt that has now become a perennial problem would get worse if the gap between the purchase price of power paid by the DISCOs and the sale revenues collected by them is not bridged. The uniform tariff rate, the Transmission and Distribution losses and energy thefts, the discrepancy in the amount billed and the amount recovered, and the growing account receivables underpin this problem. Unless the DISCOs are either privatized or restructured to become commercial organizations free from political interference, this growing circular debt would end up widening the fiscal deficit. The cost of generation to the end users can be reduced if competitive energy markets and energy exchanges are set up, auctions are held for tariff determination and multiple buyers are introduced instead of the present single buyer model The NTDC would recover only the Wheeling Charges for the use of their transmission infrastructure.

Industrial Policy:

The Special Economic Zones (SEZs), Industrial parks etc. to be set up along the Corridor should be open to Pakistani firms on the same terms as to the Chinese. Any incentives given to the Chinese would be equally applicable to all investors. Land is to be allotted on long term lease rather than outright purchase. The leases should be auctioned only to genuine, pre-qualified and screened bidders to eliminate land grabbers and speculators. In Balochistan, some portion should be reserved for local investors wherever it is feasible to do so without the right of alienation. The lease should incorporate a provision that the allotment of land would be cancelled if the project is not operational within three years... All infrastructure works – power, gas, water, roads, effluent plants, amenities – should be in place before the possession is passed on.

Pre-Feasibility studies should be carried out by the Zone authorities through expert Consultancy firms or universities, to provide base line data and information about the kind of projects that can be established in different zones.

Trade Policy:

External payments on account of repatriation of profits and debt servicing of CPEC projects would put pressure on the Current Account. Exports have to grow at least 15 percent annually to meet these new obligations and remittances have to increase at their historical level. Exchange rate has to be managed deftly to stimulate new export products, new firms, and penetration into new markets, but ensuring that prices of imports of capital goods, machinery and equipment are not hiked up to make new investments unattractive. Pakistani and other foreign companies winning competitive bidding should receive the same tax treatment to ensure level playing field.

Free Trade Agreements have to be renegotiated to preserve the comparative advantage of Pakistani exports and tariff quotas introduced to safeguard against material injury to Pakistani manufacturers. Import tariff rates have to be gradually reduced to enable Pakistani companies to participate in global supply chain.

Foreign Exchange Regime:

The current foreign exchange Regime is becoming too restrictive, for making timely payments to suppliers, vendors, and financiers. Further restrictions would only divert inflows towards informal channels, resulting in a vicious cycle. As inflows through official channels recede, and the demand for outflows through banking channels at interbank rates rise, the State Bank of Pakistan (SBP) would have to further tighten external payments, prolong the timing and disallow certain genuine payments to conserve their reserves.

As more payments are pushed to the kerb market, the differential between the official and open market rates would widen. Exporters and remitters would channel their earnings at the higher open market rate, reducing the supply in the interbank market. The increased demand by importers and other consumers of foreign exchange at the lower official rate would lead to a demand-supply disequilibrium.

Market sentiment plays an important role in the determination of exchange rate, and any hint that outflows on account of payments to the Chinese would lead to further restriction in foreign exchange regime would erode the confidence of the market players

Financial Policy:

Commercial banks should finance Pakistani Companies either stand alone or in joint ventures with the Chinese companies in collaboration with the Infrastructure Development Fund that would carefully scrutinize the proposals from potential investors, calculate the future cash flows, and carry out scenario analysis for risk mitigation. For the small and medium enterprises working either as sub- contractors to the large firms, or providing goods and services for the CPEC projects, or setting start-up businesses, the existing Funds set up by DFID, USAID etc. should be geared up to meet this demand.

In Balochistan, Southern KP, GB, urban and rural infrastructure projects that link the main highways and motorways under CPEC with the communities should be given priority by the respective governments in the allocation of the Provincial Development budgets.

Skill Development Policy:

One of the prospective benefits for CPEC projects for Pakistan would be the training and development of skilled manpower. Plans have to be made to assess the long term manpower requirements, both for construction as well as operational phases of CPEC projects.

In light of this assessment, different categories and different levels of training programs have to be designed and then assigned to credible pre-qualified providers. Particular attention should be given to train the youth from the backward districts of the country, starting with Gwadar all the way to the Karakoram Highway.

A number of private and non-profit organizations are actively engaged in quality vocational and technical training, mainly in Karachi and Punjab. These organizations should be invited to set up similar facilities in other parts of the Country, where CPEC projects are being executed.

In addition to this formal training, internships and attachments with the Chinese companies working on the projects should be made an integral part of the curriculum. IF there is one lasting legacy for which CPEC should be remembered it is this investment in producing skilled and trained technical manpower of different levels of expertise.

The other missing link in which Pakistan is weak is the institutional capacity for which a separate analysis would be required.

Published in Dawn, April 10th, 2017

Financing burden of CPEC

The ongoing debate on the impact of CPEC projects on future external payments' obligations is welcome, but should be informed by analysis based on facts rather than opinion.

The total committed amount under CPEC of $50 billion is divided into two broad categories: $35bn is allocated for energy projects while $15bn is for infrastructure, Gwadar development, industrial zones and mass transit schemes. The entire portfolio is to be completed by 2030.

Therefore, the implementation schedule would determine the payments stream. Energy projects are planned for completion by 2020, but given the usual bureaucratic delays, it won't be before 2023 that all projects are fully operational. Under the early harvest programme, 10,000 MW would be added to the national grid by 2018. Therefore, the disbursement schedule of energy projects is eight years (2015-2023). Infrastructure projects such as roads, highways, and port and airport development, amounting to $10bn, can reasonably be expected to be concluded by 2025, while the remaining projects worth $ 5bn would spill over into the 2025-30 period.

Given the above picture, it is possible to prepare a broad estimate of the additional burden on Pakistan's external payment capacity in the coming years. As the details of each project become available, the aggregate picture can be refined further. The margin of error would not cause significant deviation.

It is possible to prepare an estimate of the additional burden on our external payments' capacity.

The entire energy portfolio will be executed in the IPP mode —as applied to all private power producers in the country. Foreign investors' financing comes under foreign direct investment; they are guaranteed a 17pc rate of return in dollar terms on their equity (only the equity portion, and not the entire project cost). The loans would be taken by Chinese companies, mainly from the China Development Bank and China Exim Bank, against their own balance sheets. They would service the debt from their own earnings without any obligation on the part of the Pakistani government.

Import of equipment and services from China for the projects would be shown under the current account, while the corresponding financing item would be FDI brought in by the Chinese under the capital and finance account. Therefore, where the balance of payments is concerned, there will not be any future liabilities for Pakistan.

To the extent that local material and services are used, a portion of free foreign exchange from the FDI inflows would become available. (Project sponsors would get the equivalent in rupees). For example, a highly conservative estimate is that only one-

fourth of the total project cost would be spent locally and the country would benefit from an inflow of $9bn over an eight-year period, augmenting the aggregate FDI by more than $1bn annually. This amount can be used to either finance the current account deficit or reduce external borrowing requirements. Inflows for infrastructure projects for local spending would be another $4bn over 15 years.

Taking a highly generous capital structure of 60:40 debt-to-equity ratio for energy projects, the total equity investment would be $14bn. Further, assuming the extreme case that the entire equity would be financed by Chinese companies (although this is not true in the case of Hubco and Engro projects, where equity and loans are being shared by both Pakistani and Chinese partner companies) the 17pc guaranteed return on these projects would entail annual payments of $2.4bn from the current account.

CPEC's second component, i.e. infrastructure, is to be financed through government-to-government loans amounting to $15bn. As announced, these loans would be concessional with 2pc interest to be repaid over a 20- to 25-year period. This amount's debt servicing would be the Pakistan government's obligation. Debt-servicing payments would rise by $910 million annually on account of CPEC loans (assuming a 20-year tenor). Going by these calculations, we can surmise that the additional burden on the external account should not exceed $3.5bn annually on a staggered basis depending on the project completion schedule.

As a proportion of our total foreign exchange earnings of 2016, this amounts to 7pc. These calculations do not take into account the incremental gains from GDP growth that will rise because of investment in energy and infrastructure. As the loan amounts would be disbursed in the next 15 years and repayments would be staggered, the adding of the entire $15bn to the existing stock of external debt and liabilities is not an accurate representation. The more realistic approach would be a tapered schedule, with $2bn to $3bn getting disbursed in the earlier years and slowing down in the second half.

The question is: how do we find the extra non-debt-creating resources of $3.5bn to offset this additional burden? If the export slowdown was due to energy shortages, the availability of increased supplies should boost exports fetching higher foreign exchange revenues. Exports have to grow by 14pc annually in dollar terms to compensate for these outflows if all other sources remain unchanged. This is not unprecedented as Pakistan has previously recorded this growth rate. Further, the substitution of imported fuels with domestic ones such as hydro, coal, wind and solar should be able to result in savings of at least $1bn annually. These measures will need concerted action.

To make this happen, Pakistan has to take some policy actions on a priority basis: (a) make coordinated efforts to increase the volume of exports by diversifying product mix, penetrating new markets, revising free trade agreements, reducing transaction costs; (b) attract foreign investment in manufacturing and export sectors and set up joint ventures in the industrial zones; (c) channel workers' remittances though the banking

system by reducing the differential between the open and inter-bank market rates; (d) accelerate training of skilled, technical and professional manpower who can take over jobs from the Chinese, thus bringing cost savings and reduced outflows; (e) reform the power sector by privatizing DISCOs, mandating Nepra to develop competitive power markets and power exchanges by providing open access to producers for transmission and distribution, setting tariffs through open and transparent bidding, and introducing smart technologies. These measures would certainly help in easing the pressure on external accounts.

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The economics of CPEC

IN a country where negativity and cynicism reign supreme, critics and detractors of all kinds are revered, and emotional outbursts and fabricated stories dominate the air waves and social media, it is difficult to present a dispassionate analysis of national issues.

Since China announced the China Pakistan Economic Corridor (CPEC), more time and energy has been spent in finding faults, poking holes and raising doubts based on speculation and conjecture. Had this investment been announced in another developing country, the national reaction would be: how do we plan to ensure maximization of benefits to the economy? What are the weaknesses and deficiencies in the existing set-up we need to overcome? But this type of thinking is not in our DNA. We are either in a mood for celebration and self-congratulations or outright condemnation and depiction of exaggerated pitfalls.

There are three types of reservations against CPEC. First, those who believe that this whole endeavor is designed to benefit Punjab to the neglect of the three smaller provinces. Fanning parochial and ethnic prejudices, doubts are created about the narrow impact of these projects. Second that the country would be saddled with costly external loans and outflows forcing Pakistan to go for another bailout. Frightening numbers such as totals of $110 billion are floating around. Third, some Baloch youth believe that they would become a minority in their own province. Mistrust and not perceived economic gains underlies such anxiety.

The government has not helped matters as it has not placed all the data and information about capital structure, detailed sources of financing, project sponsors etc. pertaining to CPEC, in the public domain.

There are three types of reservations against CPEC. How can we address them?

This article, to allay some of the reservations, proposes that the Planning Commission and PIDE use the well- established framework of cost-benefit analysis to evaluate and monitor the net benefits of CPEC projects. Benefits can be of three kinds: (a) direct, measured by incremental contribution to gross value added in energy and infrastructure. Assuming energy elasticity of greater than one, a two per cent growth in energy production and usage would increase GDP by more than 2pc from the current level (b) indirect, measured by the multiplier effect of activities resulting from the direct demand of goods and services and (c) induced effects or externalities: e.g. bringing in roads and electricity may make some economic activities feasible and reduce outmigration of skilled labour from those areas. Costs can be of four types: (a) direct costs associated with investment in electricity generation, transmission and distribution or construction of roads; (b) indirect costs: large scale investment projects create

scarcity premiums and domestic prices of some goods and services are bid up. These premiums get reduced when competition sets in; (c) unavoidable incremental costs: in the absence of the required amount of domestic supplies of quality and specifications, imports have to make up the shortfall; and (d) avoidable incremental costs: proper planning, coordination and active management can substitute high-cost inputs by low-cost inputs keeping quality intact.

Net benefits are thus estimated as the difference between the discounted flow of aggregated benefits and the discounted flow of all types of costs over the given time horizon. This calculation is not straightforward and is beset with many conceptual, empirical and measurement difficulties. The most problematic area is the aggregation of easily quantifiable direct benefits or costs with estimated indirect and induced benefits and costs. The latter are sensitive to the assumptions on which they are based. Economists, by setting up monitoring experiments, discover new data that helps in fine-tuning and refining the original estimates. The outcomes therefore depend upon minimization of avoidable costs and expansion of induced benefits thus enlarging the quantum of net benefits.

The avoidable costs phenomenon can be illustrated with the help of two examples. If the Chinese managers, skilled and technical staff continue to be deployed throughout the duration of the project, the unit cost of labour after taking into account the expatriate wage premium, security, housing and mobility expenses would be relatively much higher compared to a situation where preponderantly Pakistanis were employed. If the government makes advance plans for these positions to be transferred to Pakistanis over a staggered period through training, on the job apprenticeship, attachments and under study assignments supervised by Chinese trainers, cost savings would be substantial and net benefits much larger. This requires coordination, target setting, monitoring and outsourcing to vocational and technical training institutes, private providers and the provincial governments.

Similarly, it is guesstimated that at least 100,000 additional trucks would be needed to transport construction materials, movement of export-import trade and increased volume of goods. If investment in the sub sector is not carried out well ahead of the CPEC projects' peak load demand, the prices of trucking would escalate, putting Pakistani exports at a competitive disadvantage. The cost matrix of CPEC projects would also move upwards thus increasing the indirect costs. However, if Pakistani truck manufacturers are provided ballpark figures they can invest in expansion of existing capacity in tandem with the suppliers of parts and components. Indirect benefits would increase through creation of new jobs in the industry and efficiency gains from the economies of scale.

On the benefit side, it must be ensured that the most dynamic and enduring benefits from CPEC accrue to the people living in the deprived districts of Baluchistan and southern KP. The opening up and integration of these districts with the unified national

market of goods and services would make their fisheries, mining, livestock, horticulture and other activities economically feasible, creating incomes and jobs and helping lift them out of poverty. Roads and electricity are precursors for broad-based development as they minimize post-harvest losses, waste and spoilage of perishable agriculture commodities, reduce the cost of delivery to market towns, and confer purchasing power in the hands of farmers who then use it to buy consumer goods, generating a second round of economic activities in these districts

By playing a more active role in maximizing the benefits to the people of deprived districts and containing avoidable costs, the government would be able to allay a lot of misapprehensions and doubts.

Published in Dawn, January 3rd, 2017

CPEC Major Projects Details

Summary of China Pakistan Economic Corridor's Major Projects

Major Categories	# of Projects	Estimated Cost (US $ Million)	Projected Cost (US $ Million)	Direct Job Opportunities
Energy	21	26,370 for 13,810MW	33,000 for 17,045MW	71,959
Infrastructure (Road)	5	5,341	5,341	31,474
Infrastructure (Rail)	3	8,237	8,237	14,400
Infrastructure (Optical Fiber)	1	44	44	1,294
Gwadar	12	793	10,000-14,000	77,700
Total	**42**	**$40,784**	**$58,622**	**196,827**

CPEC-Energy Priority Projects

#	Project Name	Estimated Cost US$ Millions	Mode of Financing	Financing Company/ Sponsors	Coordinating Ministry	Capacity in MW	Supervising Agency	Type of Energy /Technology	Debt/Equity Ratio	NAPRA Levelized tariff Rate (US Cents /kWh)	Expected Commercial Operation Date (COD)	Provinces/ Regions	Direct Job Opportunities
1	2×660MW Coal-Fired Power Plants at Port Qasim Karachi	1,980	IPP	Port Qasim Electric Power Company (Private) Limited	Ministry of Water and Power	1,320	Private Power and Infrastructure Board (PPIB)	Coal (Imported)/Super Critical	75/25	8.3601	June 2018.	Sindh	6,500
2	Suki Kinari Hydro power Station, Naran, KPK	1,802	IPP	Suki Kinari Hydro (Pvt) Ltd	Ministry of Water and Power	870	PPIB	Hydel	70/30	8.8145	2020/2021.	District Mansehra, KPK	6,250
3	Sahiwal 2x660MW Coal-fired Power Plant, Punjab	1,600	IPP	Huaneng Shandong Rui Group, China	Ministry of Water and Power	1,320	Punjab Power Development Board (PPDB)	Coal (Imported)/Super Critical	75/25	8.3601	May 2017.	Punjab	8,278
4	Engro Thar Block II 2*330 MW Coal-Fired Power Plant,TEL 1*330 MW Mine Mouth Lignite Fird Power Project at Thar Block II, Sindh, ThalNova 1*330 MW Mine Mouth Lignite Fired Power Project at Thar Block-II, Sindh.	2,000	IPP	Engro Power Gen Thar LTd. / China Machinery Engineering Corporation (CMEC)	Ministry of Water and Power	1,320	PPIB	Coal (Local)/ Sub Critical	75/26	8.5461	June, 2019	Sindh	4,100
	Surface Mine In Block II Of Thar Coal Field, 6.5 Metric Ton Per Annum (Mtpa), Thar Sindh	1,470		China Machinery Engineering Corporation (CMEC) / Sindh Engro Coal Mining Company (SECMC)	Ministry of Water and Power / Ministry of Petroleum and Natural Resources		Thar Coal Energy Board (TCEB)	Coal/Open Pit Mining			Decemebr 2018.	Sindh	
5	Hydro China Dawood 50 MW Wind Farm (Gharo, Thatta)	125	IPP	M/s Hydrochina Dawood Power Pvt. Limited (HDPPL)	Ministry of Water and Power	50	Alternative Energy Development Board (AEDB)	Wind/ Wind Turbine	80/20	11.8750	April, 2017	Sindh	325
6	300 MW Imported Coal Based Power Project at Gwadar.	600	To be decided	China Communications Construction Company (CCCC)		300	Gwadar Port Authority (GPA) / Gwadar Development Authority (GDA)	Coal (Imported)		8.3601		Baluchistan	2,500
7	Quaid-e-Azam 1000 MW Solar Park (Bahawalpur)	1,302	IPP	Zonergy	Ministry of Water and Power	1,000	PPDB / AEDB	Solar	72/28	14.1516	COD of 3 x 100 MW attained in August 2016.	Punjab	1,600

#	Project Name	Estimated Cost US$ Millions	Mode of Financing	Financing Company/ Sponsors	Coordinating Ministry	Capacity in MW	Supervising Agency	Type of Energy /Technology	Debt/Equity Ratio	NAPRA Levelized tariff Rate (US Cents /kWh)	Expected Commercial Operation Date (COD)	Provinces/ Regions	Direct Job Opportunities
8	UEP 100MW Wind Farm, Jhimpir,Thatta	250	IPP	Hydro China (EPC) Gold Wind China (Supplier) / United Energy Pakistan (Pvt.) Ltd	Ministry of Water and Power	100	AEDB	Wind/ Wind Turbine	100% Foreign Loan	13.1998	June, 2017	Sindh	653
9	Sachal 50MW Wind Farm, Jhimpir, Thatta, Sindh	134	IPP	Hydro China / Arif Habib Corporation Limited	Ministry of Water and Power	50	AEDB	Wind/ Wind Turbine	80/20	14.8618	April, 2017	Sindh	325
10	SSRL Thar Coal Block-I, 6.8 mtpa & SEC Mine Mouth Power Plant (2×660 MW)	3,300	IPP	Shanghai Electric Power Company Limited / CCTEG and SSRL	Ministry of Water and Power	1,320	PPIB	Coal (Local)/Sub Critical	75/25	8.3341	2018 / 2019	Sindh	8,278
11	Karot Hydropower Station, AJK & Punjab	1,420	IPP	Karot Power Company Ltd. (KPCL) / CSAIL/ CTGI /CTG (China Three Gorges)	Ministry of Water and Power	720	PPIB	Hydel	80/20	5.3977	2020/2021.	AJK / Punjab	6,250
12	Three Gorges Second Wind Power Project Three Gorges Third Wind Power Project (2*50 MW)	150	IPP	Karot Power Company Ltd. (KPCL) / CSAIL/ CTGI /CTG (China Three Gorges)	Ministry of Water and Power	100	AEDB	Wind/Wind Turbine	100% Foreign Loan	10.4481 & 10.6048	Sep, 2018.	Sindh	644
13	CPHGC 1320 MW Coal-Fired Power Plant , Hub, Balochistan	1,940	IPP	China Power Hub Generation Company (Private) Limited	Ministry of Water and Power	1,320	PPIB	Coal (Imported)/Super Critical	75/25	8.3601	2018/2019	Baluchistan	8,278
14	Matiari to Lahore +660Kv HVDC Transmission line Project. (878km)	1,500	ITC	China Electric Power Equipment and Technology Co.Ltd.(CET) / State Grid Corporation of China (SGCC)	Ministry of Water and Power	2000 MW with 10% overloaded capability for 2 hours	National Transmission & Despatch Company (NTDC)	±660 KW Bipole HCDC with Converter/ Grounding Electrode Stations			2018 / 2019.	Sindh and Punjab	9,700
	Matiari (Port Qasim) To Faisalabad Transmission Line Project.	1,500	ITC	China Electric Power Equipment and Technology Co.Ltd.(CET) / State Grid Corporation of China (SGCC)	Ministry of Water and Power						2018 / 2019.	Sindh and Punjab	
15	ThalMine Mouth Oracle & Surface Mine, Thar Sindh	1,300	IPP	M/s Oracle Coalfields SEPCO and Yanzhou Coal	Ministry of Water and Power	1,320	PPIB	Local Coal	75/25	8.5015	Under Feasibility	Sindh	8,278
	Sub Total	**22,373**				**11,110**							**71,959**

CPEC-Energy Actively Promoted Projects

#	Project Name	Estimated Cost US$ Millions	Mode of Financing	Financing Company/ Sponsors	Coordinating Ministry	Capacity in MW	Supervising Agency	Type of Energy /Technology	Debt/Equity Ratio	NAPRA Levelized tariff Rate (US Cents /kWh)	Expected Commercial Operation Date (COD)	Provinces/ Regions	Direct Job Opportunities
16	Kohala Hydel Project, AJK	2,397	IPP	CTG/CWEI (China Three Gorges) / (CWE Investment Crop)	Ministry of Water and Power	1,100	Private Power and Infrastructure Board (PPIB)	Hydel			2023	AJK	
17	Rahimyar Khan imported Fuel Power Plant	1,600	IPP	Huaneng Shandong Power	Ministry of Water and Power	1,320	Punjab Power Development Board (PPDB)	Coal (Imported)/Super Critical	75/25	8.3601		Punjab	
18	Cacho 50MW Wind Power Project		IPP		Ministry of Water and Power	50	Alternative Energy Development Board (AEDB)	Wind/Wind Turbine				Sindh	
19	Western Energy (Pvt.) Ltd. 50MW Wind Power Project		IPP		Ministry of Water and Power	50		Wind/Wind Turbine				Sindh	
	Sub Total	**3,997**				**2,520**							

CPEC-Potential Energy Projects

#	Project Name	Estimated Cost US$ Millions	Mode of Financing	Financing Company/ Sponsors	Coordinating Ministry	Capacity in MW	Supervising Agency	Type of Energy /Technology	Debt/Equity Ratio	NAPRA Levelized tariff Rate (US Cents /kWh)	Expected Commercial Operation Date (COD)	Provinces/ Regions	Direct Job Opportunities
20	Phandar Hydropower Station		IPP		Ministry of Water and Power	80	PPIB/PPDB	Hydro				Giglit Baltistan	
21	Gilgit KIU Hydropower		IPP		Ministry of Water and Power	100	PPIB/PPDB	Hydro				Giglit Baltistan	
	Sub Total	**-**				**180**							
	Estimated Total	**26,370**				**13,810**							**71,959**

#	Project Name	Estimated Cost US$ Millions	Mode of Financing	Coordinating Ministry	Length KM	Supervising Agency	Expected Commercial Operation Date (COD)	Provinces	Direct Job Opportunities
Roads Projects of CPEC									
1	KKH Phase II (Thakot -Havelian Section)	1,366	Chinese Government Concessional Loan (GCL)	Ministry of Communications (MoC)	120	M/s China Communications construction company Ltd	March,2020	GB & KPK	7,800
2	Peshawar-Karachi Motorway (Multan-Sukkur Section)	2,980	GCL	MoC	392	M/s China State Construction Engineering Corporation	August,2019	Punjab & Sindh	15,174
3	Khuzdar-Basima Road N-30 (110 km)	80	Procedural formalities to be completed shortly		110			Balochistan	800
4	Upgradation of D.I.Khan (Yarik) - Zhob, N-50 Phase-I	195			210			KPK & Balochistan	6,700
5	KKH Thakot-Raikot N35 remaining	719.8	Procedural formalities to be completed shortly		136			GB & KPK	1,000
	Sub Total	**5,341**			**968**				**31,474**
Railway Projects of CPEC									
1	Expansion and reconstruction of existing Line ML-1	8,172	GCL	Ministry of Railway, Ministry of Communication	1,872		2022	KPK - Balochistan Punjab	14,400
2	Havelian Dry port (450 M. Twenty-Foot Equivalent Units)	65	GCL	Ministry of Railway, Ministry of Communication				KPK	
3	Capacity Development of Pakistan Railways	Focus groups be established for effective training and capacity enhancement							
	Sub Total	**8,237**			**1,872**				**14,400**
CPEC Optical Fiber (Khunjrab to Islamabad)									
1	Cross Border Optical Fiber Cable	44	Chinese Government Concessional Loan (GCL)	Special Communication Organization (SCO)	835	SCO	December, 2018	GB-KPK-Punjab	1,294
	Sub Total	**44**			**835**				**1,294**
	Total	**13,622**			**3,675**				**47,168**

Gwadar Projects

#	Project Name	Estimated Cost(US$ M)	Financing	Coordinating Ministry	COD	Direct Job Opportunities
1	Development of Free Zone	32	Chinese GCL	GPA, Ministry of Ports & Shipping (MoPS)	2018	1,100
2	New Gwadar International Airport	230	Chinese Government Grant (CGG)	Civil Aviation Authority		76,600
3	Construction of Breakwaters	123	Mix of Chinese GCL & Grant	GPA, MoPS		
4	Dredging of berthing areas & channels	27	Chinese GCL	GPA, MoPS		
5	Gwadar East-Bay Expressway	141	Mix of Chinese GCL & Grant	GPA, MoPS	2018	
6	Necessary facilities of fresh water treatment, supply and distribution	130	CGG	P&D Dept. Govt. of Balochistan and MoPDR	2018	
7	Pak China Friendship Hospital	100	CGG	GDA, P&D Dept., Government of Balochistan and MoPDR		
8	Technical and Vocational Institute at Gwadar	10	CGG	MoPS, MoPDR		
9	Gwadar Smart Port City Master Plan				2018	
10	Bao Steel Park, petrochemicals, stainless steel and other industries in Gwadar					
11	Development of Gwadar University (Social Sector Development)					
12	Upgradation and development of fishing, boat making and maintenance services to protect and promote livelihoods of local population					
	Total	**793**				**77,700**

Appendix

The Macroeconomics of Pakistan's Quest for Energy and The CPEC 1 (IMF)

Pakistan Selected Issues

IMF Country Report No. 17/213

July 2017

THE MACROECONOMICS OF PAKISTAN'S QUEST FOR ENERGY AND THE CPEC[1]

Pakistan has embarked on a massive investment program in energy and infrastructure sectors, partly in the context of the China-Pakistan Economic Corridor (CPEC). This chapter discusses some of the expected benefits of these investments as well as their potential macroeconomic impact. The planned investments are expected to eliminate Pakistan's energy deficit, improve the economy's fuel mix, reduce energy costs, raise overall business productivity and trade connectivity, and provide a positive boost to output and exports. At the same time, the potential medium-term impact on the balance of payments—through higher loan repayments, repatriation of profits from FDI, and fuel imports—points to the need for a strong policy focus on boosting exports and building external buffers, bringing the distribution sector to full cost recovery, prudent management of project costs and fiscal incentives, as well as careful phasing in of new external commitments.[2]

1. **Over the past decade, Pakistan has faced chronic energy shortages and substantial underinvestment in infrastructure**. The authorities estimate the cost of these challenges to the economy at about 2 percent of GDP per annum. Excessive reliance on furnace oil amid rising oil prices combined with administrative and operational inefficiencies and inadequate tariff setting produced large and persistent losses in the power sector which, in turn, led to the accumulation of power sector arrears (so-called "circular debt"), underutilization of existing capacity, and underinvestment in new energy supply. The resulting gap between demand and supply of energy was manifested in power outages averaging 10–12 hours a day in FY2012/13. Alongside, public investment averaged only about 3.5 percent of GDP-substantially lower than the average of over 6 percent of GDP in other emerging economies.

2. **The authorities' reforms have led to notable improvement in recent years**. Lower oil prices, combined with efforts to bring power tariffs closer to cost recovery as well as improved collections and reduced losses have helped bring power outages to about 6 hours a day on average in the residential sector and less than two hours a day in the industrial sector in FY2015/16. In parallel, accumulation of circular debt has slowed down and efforts to raise tax revenue and rationalize expenditure have created space to expand the public sector development program by 0.5 percent of GDP cumulatively over the last three years.

[1] Prepared by Hiba Zaidi and Tokhir Mirzoev.

[2] Medium-term projections presented in this note represent a preliminary assessment which is likely to change over time. These projections have already been incorporated in the IMF staff's macroeconomic framework balance of payments projections. The calculations are based on available information and, where applicable, staff's own assumptions.

3. Alongside, Pakistan has embarked on a wide-ranging initiative to increase and diversify its energy supply and improve infrastructure to help realize the country's growth potential. The China-Pakistan Economic Corridor (CPEC) is a large package of investment projects, potentially totaling about $55 billion (19 percent of FY2015/16 GDP) over the next decade, aimed at upgrading infrastructure, boosting and diversifying energy supply, and improving regional trade connectivity thereby stimulating investment. The estimated size of CPEC will likely change over time. The analysis below is based on realization of 19 CPEC projects ($17.7 billion in energy sector and $5.9 billion in infrastructure) and several non-CPEC energy sector projects ($25.4 billion), which are either in advanced planning stages or already in the process of implementation. Investments in the energy sector include a combination of generation projects based on coal and liquefied natural gas, hydro power stations, nuclear power plants, and several solar and wind farms. Substantial investment has already taken place and, going forward, inflows are expected to peak at about $12 billion, gradually declining in the following four years.

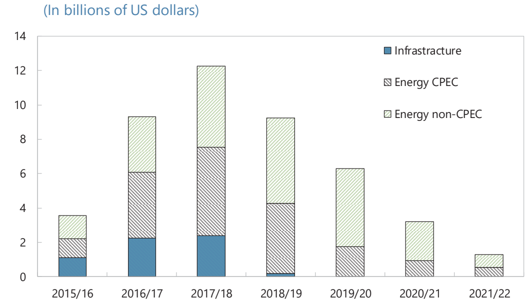
Summary of CPEC and Other Power Sector Projects 1/

	No. projects	Investment (US$ bn.)
CPEC	19	23.6
Energy	15	17.7
Infrastructure	4	5.9
Non-CPEC energy	13	25.4
Total	32	49.0

Source: Staff estimates based on discussions with the Pakistani authorities.
1/ Includes only projects in implementation or advanced planning stage.

4. The authorities have facilitated a variety of financing modalities for the various investment plans. CPEC infrastructure and transport projects are financed by long term concessional government borrowing from China. CPEC projects in the energy sector involve foreign direct investment and commercial borrowing from Chinese financial institutions, either by majority foreign-owned joint ventures or Chinese investors.[3] Financing of non-CPEC energy projects ranges from private domestic financing to private commercial as well as government concessional borrowing from international financial institutions.

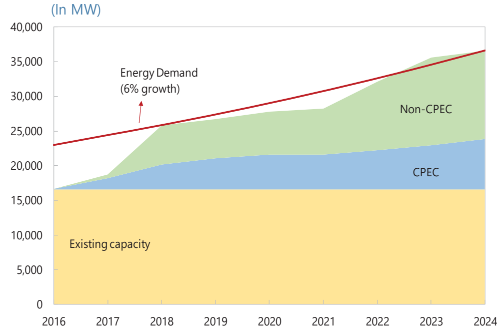
CPEC and Other Power Sector Investment Plans
(In billions of US dollars)



Source: Pakistan authorities, NEPRA, news reports, and staff estimates.
Based on projects in implementation or in advanced planning stages.

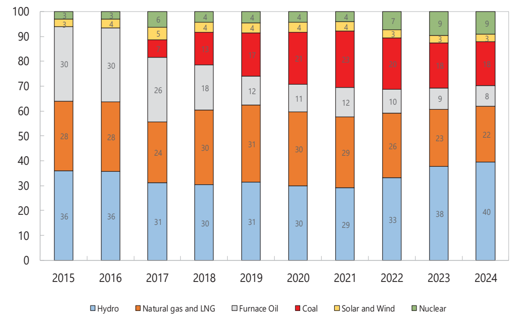
[3] Energy sector projects will operate as independent power producers (IPPs) with guaranteed sales through power purchasing agreements or guaranteed rates of return through energy tariffs.

Projected Power Sector Capacity and Demand
(In MW)



Source: IMF staff estimates based on data from Pakistani authorities, NEPRA, and own assumptions.
Based on projects in implementation or in advanced planning stages. Demand and supply during NTDC's system peak hours.

Projected Evolution of the Fuel Mix
(In percent)

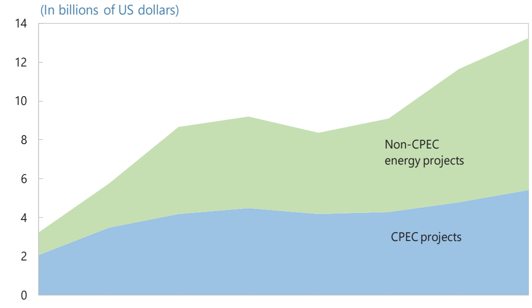


Sources: Pakistan authorities, NEPRA, news reports, and staff estimates.
Based on projects in implementation or in advanced planning stages.

5. **If implemented on schedule, these investments could help close Pakistan's power deficit and significantly improve energy costs and the fuel mix**. The current investment plans envisage an addition of about 24 GW in installed capacity, of which 8.6 GW owing to CPEC, over the next 7–9 years. Assuming annual growth in energy demand of around 6 percent and an average capacity utilization of 85 percent, this expansion will help eliminate Pakistan's deficit of about 6 GW in 2016 to a surplus as early as end-2018. In the process, Pakistan's reliance on furnace oil (30 percent of the fuel mix in 2015) would be significantly reduced, making the energy sector more independent and resilient to abrupt changes in international oil prices.

6. **Alongside, these investments will provide a boost to Pakistan's GDP**. This boost will likely come in three stages: construction, power generation once the installed capacity becomes operational, and-over time-second-round effects on broader economic activity owing to increased productivity, lower costs, and improved trade connectivity owing to improved infrastructure. The first two stages (direct contribution) will likely materialize in the next several years, while the second-round effects will likely accrue more gradually and could lead to a significant contribution in the long run, although the exact impact will depend on many other supportive factors.

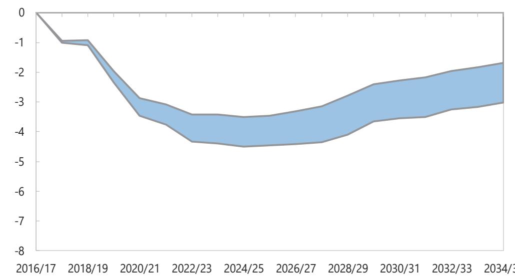
Direct Contribution to GDP from CPEC and other Energy Projects
(In billions of US dollars)



Source: IMF staff estimates based on data from Pakistan authorities, NEPRA, and own assumptions.
Based on projects in implementation or in advanced planning stages. Direct contribution includes impact from construction phase as well as value added in electricity generation (using NEPRA-determined tariffs), and does not include potential second-round effects. Assumes 70% import content during construction. Value added is estimated by subtracting the import content of investment, and the cost of imported fuel.

7. **At the same time, Pakistan's investment initiatives will likely create long-term balance of payments outflows**. In the medium term, the operation of these projects will require balance of payments (BoP) outflows in the form of loan repayment, profit repatriation, and imports of input fuel. These outflows- which will be moderated by the expected savings from phasing out of the oil-based electricity generation -are expected to rise in the next several years, peaking at about $3.5–$4.5 billion by FY2024/25 (1.2–1.6 percent of FY2015/16 GDP) and gradually declining in the long run. A slower growth of energy demand or a faster phasing out of oil-based energy generation capacity, among other factors, will help lower these outflows.

BoP Flows Owing to CPEC and non-CPEC Energy Projects
(In billions of US dollars)



Source: IMF staff estimates based on data from Pakistani authorities, NEPRA, and own assumptions. Based on projects currently in implementation or in advanced planning stages. The range of estimates corresponds to different plausible assumptions about the rate of displacement of furnace oil -based electricity generation, rate of profit repatriation, energy demand growth, fuel prices, and capacity utilization.

8. **Exports will need to increase substantially to meet the increased foreign currency financing needs**. A positive impact of these projects on exports will further offset the expected outflows in the medium term. However, the effect of these investment initiatives will likely accrue gradually over time given the time required to build up additional export capacity from productivity improvements.

9. **These considerations warrant policymakers' attention to two priority areas in order to realize the transformational potential of Pakistan's investment program while maintaining external stability**:

- **Generating export revenue and further building the external buffers**. Taking advantage of the still low oil prices to substantially augment the foreign exchange reserves of the State Bank of Pakistan (SBP)will be important to cushion the period of increased BoP outflows. Strong and sustained reform efforts aimed at raising exports by improving competitiveness and the business climate will be critical to maintain long-term external sustainability and realize the potential benefits of CPEC from improved energy supply and transport infrastructure.

- **Bringing the distribution sector to full cost recovery**. Routing the increased generation capacity through a loss-making distribution sector could result in faster accumulation of circular debt and fiscal costs, as well as undermine long-term financial sustainability of the new energy projects. Therefore, despite the recent progress, a significant acceleration of energy sector reforms, including strengthening of governance in the distribution companies (DISCOs), attracting private investment to reduce line losses and improve metering and collection, and maintaining a strong and enabling regulatory framework will be important in the period ahead.

10. Looking ahead, containing fiscal costs, maintaining a supportive environment for all investments, and a gradual phasing in of new external commitments will help maintain macroeconomic stability and strengthen growth sustainability. In this context, it would be important to rationalize and limit tax incentives and exemptions; maintain uniformity of the tax regime with respect to all investments; and synchronize phasing in of new external commitments with the expected balance of payments trends.

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